

IN THE CLAIMS

Claims 32-39 and 42-49 are pending.

Claims 1-31, 40, 41, and 50-96 are canceled.

Claim 32 is currently amended.

1. – 31. (Canceled)

32. (Currently amended) A device comprising:

a candidate selector that is capable of accepting a current macroblock, the candidate selector adapted to select a motion vector candidate from a set of motion vector candidates with regard to the current macroblock using an accuracy indicator corresponding to the selected motion vector candidate;

a refinement case ascertainment that is capable of accepting the selected motion vector candidate and the accuracy indicator corresponding thereto, the refinement case ascertainment adapted to ascertain a refinement case from among a plurality of refinement cases based on a first threshold and a second threshold and responsive to the accuracy indicator,

wherein the plurality of refinement cases comprises a first case, a second case, and a third case, and

wherein the refinement case ascertainment is configured to implement the following selection criteria:

if the accuracy indicator is less than the first threshold, then the first case is ascertained;

if the first threshold is less than the accuracy indicator which is less than the second threshold, then the second case is ascertained;
and

if the accuracy indicator is greater than the second threshold, then the third case is ascertained; and

a refinement case analyzer that is capable of accepting the ascertained refinement case, the refinement case analyzer adapted to analyze a collection of points defined by the ascertained refinement case with regard to the current macroblock to potentially refine the selected motion vector candidate;

wherein the refinement case analyzer is adapted

(i) to analyze the first case, when ascertained by the refinement case ascertainment, by testing four contiguous points at the selected motion vector candidate on a cross direction,

(ii) to analyze the second case, when ascertained by the refinement case ascertainment, by testing eight contiguous points around the selected motion vector candidate, and

(iii) to analyze the third case, when ascertained by the refinement case ascertainment, by testing eight points that are around and that are two pixels away from the selected motion vector candidate.

33. **(Original)** The device as recited in claim 32, wherein the candidate selector is further capable of accepting a current frame that includes the current macroblock.

34. **(Original)** The device as recited in claim 32, wherein the candidate selector is further capable of accepting a reference frame, the candidate selector configured to extract reference macroblock candidates from the reference frame in accordance with the set of motion vector candidates.

35. **(Original)** The device as recited in claim 34, wherein the candidate selector is further configured to determine a respective accuracy indicator for each of the reference macroblock candidates; the candidate selector further adapted to select the selected motion vector candidate by selecting the motion vector candidate corresponding to a best respective accuracy indicator.

36. **(Original)** The device as recited in claim 32, wherein the set of motion vector candidates consists of three motion vectors and a null vector.

37. **(Original)** The device as recited in claim 32, wherein the set of motion vector candidates comprises two motion vectors from two macroblocks that are temporally identical and spatially contiguous to the current macroblock

and one motion vector from one macroblock that is spatially identical and temporally contiguous to the current macroblock.

38. (Original) The device as recited in claim 32, wherein the device further comprises:

an accuracy indicator determiner that determines accuracy indicators for reference macroblocks from a reference frame with regard to the current macroblock of a current frame.

39. (Original) The device as recited in claim 38, wherein the accuracy indicator determiner comprises a sum of absolute differences (SAD) determiner.

40. (Canceled)

41. (Canceled)

42. (Original) The device as recited in claim 32, wherein each refinement case of the plurality of refinement cases defines a plurality of test points.

43. (Original) The device as recited in claim 32, wherein the refinement case ascertainment is configured to associate a respective refinement case

of the plurality of refinement cases to a respective range of accuracy values of a plurality of ranges of accuracy values, the plurality of ranges of accuracy values at least partially delineated by the first threshold and the second threshold; wherein the refinement case ascertainment is further adapted to ascertain the ascertained refinement case by ascertaining the respective range of accuracy values of the plurality of ranges of accuracy values in which the accuracy indicator belongs.

44. (Original) The device as recited in claim 32, wherein the refinement case analyzer is further adapted to refine the selected motion vector candidate when an accuracy indicator corresponding to a point of the collection of points is better than the accuracy indicator corresponding to the selected motion vector candidate.

45. (Original) The device as recited in claim 32, wherein the collection of points includes a plurality of test points and a central pixel that corresponds to the selected motion vector candidate.

46. (Original) The device as recited in claim 32, wherein the refinement case analyzer is configured to select a best accuracy indicator from a collection of respective accuracy indicators created for respective points of the collection of points.

47. (Original) The device as recited in claim 32, wherein the device further comprises:

a discrete cosine transform (DCT) component that performs integer DCT calculations on residual error values in a video encoding operation.

48. (Original) The device as recited in claim 32, wherein the device further comprises:

an inverse discrete cosine transform (IDCT) component that performs integer IDCT calculations on transformed and quantized residual error values in a video encoding operation.

49. (Original) The device as recited in claim 32, wherein the device comprises a mobile device having a wireless interface.

50.-96. (Canceled).